

## Yellow or red coloring along forewing costal veins in eight *Agrias beata* (Lepidoptera, Nymphalidae) from Peru

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**Abstract** One female and seven males of *Agrias beata* Staudinger were presented with yellow or red coloring along forewing costal veins.

**Key words** *Agrias beata beata* Staudinger, *A. b. beata* f. *staudingeri* Michael, *A. b. beata* f. *beatifica* Hewitson, *A. b. stuarti* Godman & Salvin, new variation, Nymphalidae.

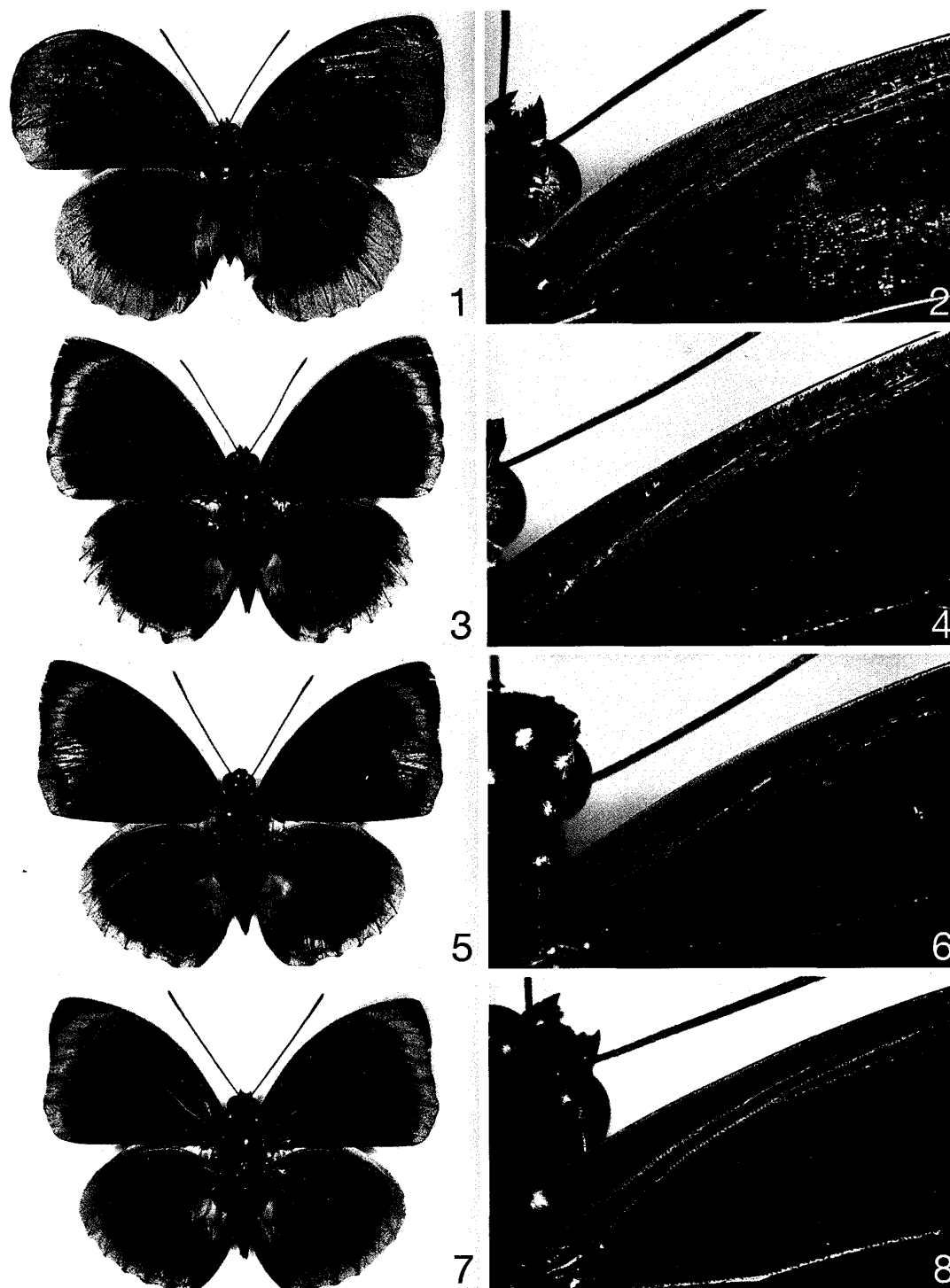
Yellow and red are common colors on the ventral surface of *Agrias beata* Staudinger from Peru, but they are unusual colors in dorsal view. Only one variation was described by Rebillard as *A. b. stuarti* var. *fulvescens*, which has a dorsal yellow patch in hindwing disc 7. More than 500 specimens of *A. beata* were collected by the authors in Peru from 1984, and one female and seven males were found to have yellow or red coloring along the costal veins on the forewing dorsal surface. In this paper we present their characteristics as well as color figures of each butterfly.

Figs 1 and 2 show the first female specimen in dorsal view with ocher-yellow forewing costal veins (forewing length 35 mm). The color appears brown rather than yellow macroscopically as shown in Fig. 1. However, each scale is ocher-yellow in a zoomed-in picture (Fig. 2). Many ocher-yellow scales are seen in the narrow space between the costal margin and vein 12 (disc 12) as well as in narrow space between veins 11 and 12 (disc 11). These scales are also seen on veins 10, 11 and 12 as well as in the cell. Fig. 17 shows the same specimen in ventral view with large ocher-yellow basal patches on fore- and hindwings, showing that this specimen belongs to *A. b. stuarti* f. *micaela* Biedermann. This female was captured at Cahuide near the Iquitos-Nauta road, Loreto, on September 22, 1987.

Figs 3 and 4 show the second male specimen in dorsal view with ocher-yellow forewing costal veins (forewing length 36 mm). Many ocher-yellow scales are seen in disc 11. Ocher-yellow scales are also seen in discs 10 and 12 as well as in the cell. Fig. 18 shows the same specimen in ventral view with large ocher-yellow basal patches on fore- and hindwings, showing that this specimen belongs to *A. b. stuarti* f. *micaela*. This male was captured at 11 km, Iquitos-Nauta road, Loreto, on August 3, 1986.

Figs 5 and 6 show the third male specimen in dorsal view with ocher-yellow coloring in the base of the forewing costal margin (forewing length 35 mm). Many ocher-yellow scales are seen in disc 12. Ocher-yellow scales are also seen in discs 11 and on vein 12. Fig. 19 shows the same specimen in ventral view with large ocher-yellow basal patches on fore- and hindwings, showing that this specimen belongs to *A. b. stuarti* f. *micaela*. This male was captured at Rio Itaya, near Iquitos, Loreto, on January 31, 1987.

Figs 7 and 8 show the fourth male specimen in dorsal view with ocher-yellow forewing costal veins (forewing length 36 mm). Many ocher-yellow scales are seen on veins 11 and 12 as well as in disc 12. Ocher-yellow scales are also seen on veins 9 and 10. Blue scales are seen in the base of disc 11. Forewing green bands are wide. Fig. 20 shows the specimen in



Figs 1-8. Dorsal view of *Agrias beata stuarti* f. *micaela* Biedermann with ocher-yellow coloring along forewing costal veins (Iquitos, Peru). 1. The first female specimen captured on September 22, 1987. 2. *Ditto*, enlargement of right forewing. 3. The second male specimen captured on August 3, 1986. 4. *Ditto*, enlargement of right forewing. 5. The third specimen captured on January 31, 1987. 6. *Ditto*, enlargement of right forewing. 7. The fourth specimen captured in August 1993. 8. *Ditto*, enlargement of right forewing.

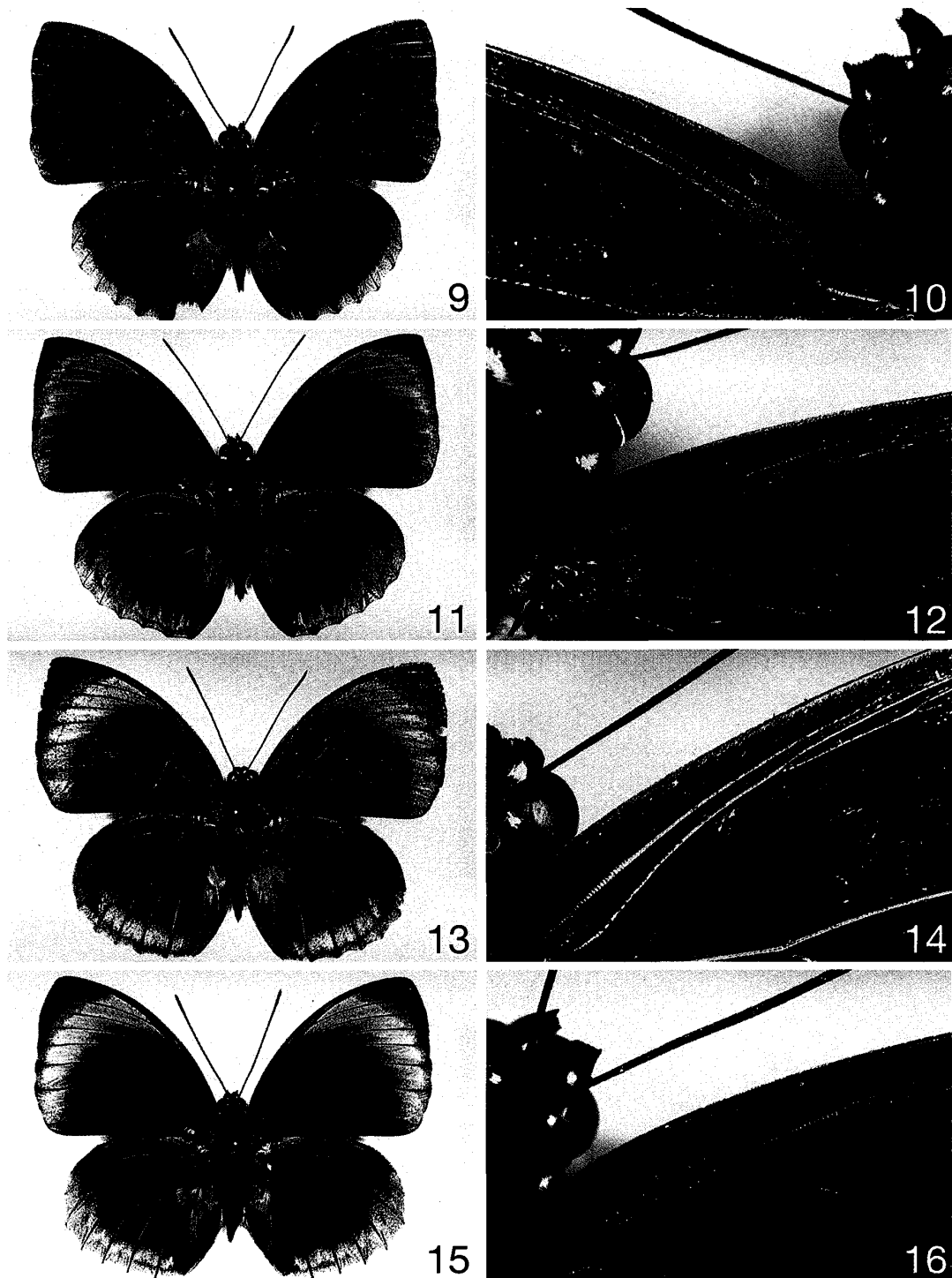
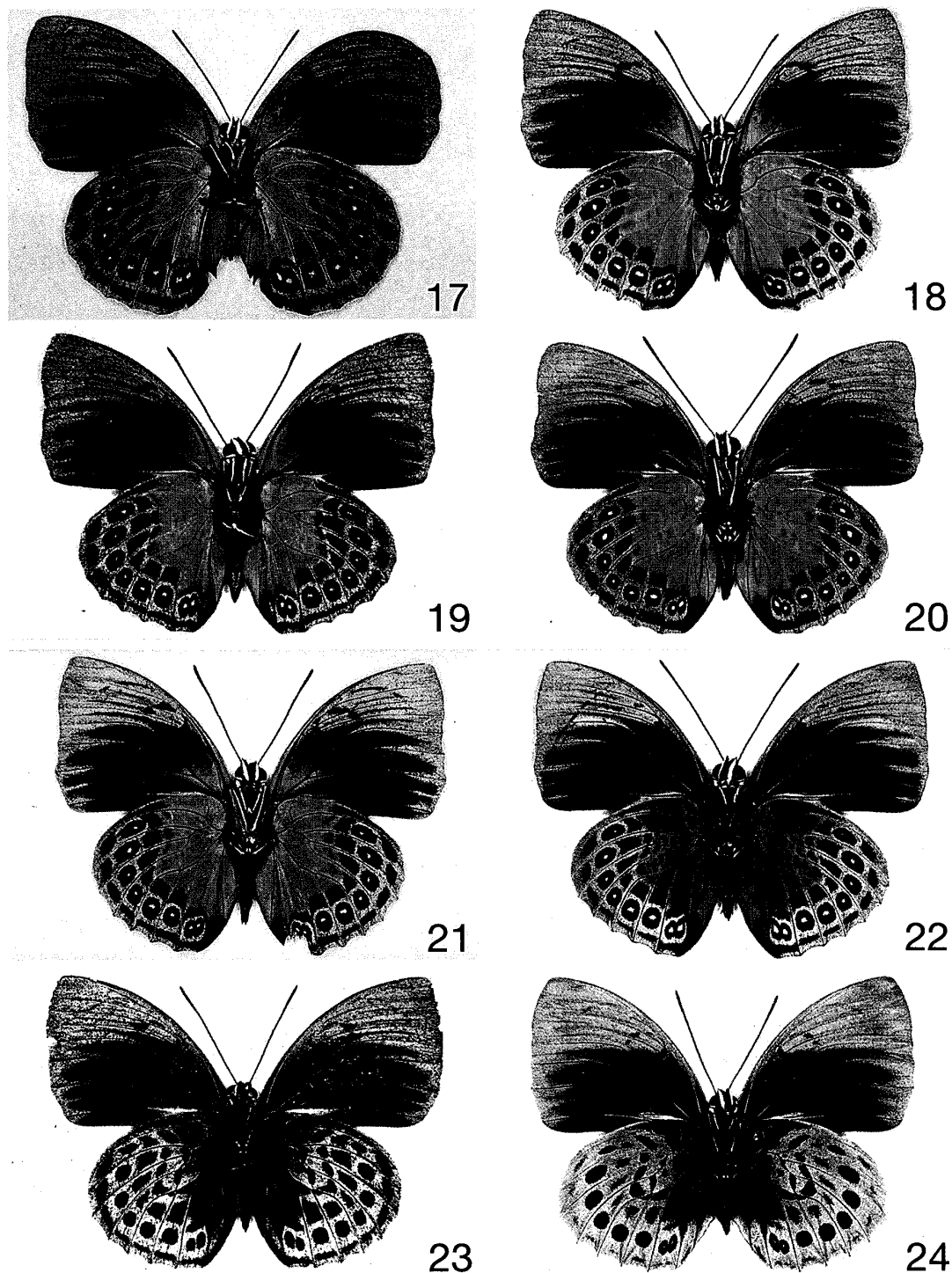


Fig. 9. Dorsal view of the fifth specimen, *Agrias beata stuarti* f. *micaela* (Rio Yavari, Peru). Fig. 10. *Ditto*, enlargement of left forewing. Fig. 11. Dorsal view of the sixth specimen, *Agrias beata beatifica* var. *incarnata* Michael (Pebas, Peru). Fig. 12. *Ditto*, enlargement of right forewing. Fig. 13. Dorsal view of the seventh specimen, *Agrias beata beata* f. *staudingeri* Michael (Atalaya, Peru). Fig. 14. *Ditto*, enlargement of right forewing. Fig. 15. Dorsal view of the eighth specimen, *Agrias beata beata* Staudinger (Satipo, Peru). Fig. 16. *Ditto*, enlargement of right forewing.



Figs 17-20. Ventral view of *Agrias beata stuarti* f. *micaela* Biedermann (Iquitos, Peru). 17. The first female specimen. 18. The second male specimen. 19. The third male specimen. 20. The fourth male specimen. Fig. 21. Ventral view of *Agrias beata stuarti* f. *micaela* (Rio Yavari, Peru). Fig. 22. Ventral view of *Agrias beata beatifica* var. *incarnata* Michael (Pebas, Peru). Fig. 23. Ventral view of *Agrias beata beata* f. *staudingeri* Michael (Atalaya, Peru). Fig. 24. Ventral view of *Agrias beata beata* f. *staudingeri* (Satipo, Peru).

ventral view with large ocher-yellow basal patches on fore- and hindwings, showing that this specimen belongs to *A. b. stuarti* f. *micaela*. This male was captured at the Rio Itaya, near Iquitos, Loreto, in August 1993.

Figs 9 and 10 show the fifth male specimen in dorsal view with ocher-yellow coloring in the base of the forewing costal margin (forewing length 36 mm). Many ocher-yellow scales are seen in discs 11 and 12. These scales are also seen on veins 11 and 12. Fig. 21 shows the specimen in ventral view with large ocher-yellow basal patches on fore- and hindwings, showing that this specimen belongs to *A. b. stuarti* f. *micaela*. This male was captured at the Rio Yavari, Loreto, in September 1993.

Figs 11 and 12 show the sixth male specimen in dorsal view with red coloring in the base of the forewing costal margin (forewing length 35 mm). Many red scales are seen on vein 12 as well as on the costal margin. Red scales are also seen in discs 11 and 12. Blue scales are seen in the base of disc 11 as well as in disc 12. Forewing green bands are very wide. Fig. 22 shows the specimen in ventral view with large carmine red basal patches on fore- and hindwings, showing that this specimen belongs to *A. b. beatifica* var. *incarnata* Michael. This male was captured at Pebas, Loreto, on November 13, 1991.

Figs 13 and 14 show the seventh male specimen in dorsal view with red coloring along the forewing costal veins (forewing length 36 mm). Many red scales are seen in disc 11. Red scales are also seen in discs 10 and 12 as well as in the cell. Blue scales are seen in the base of disc 11. Fig. 23 shows the specimen in ventral view with the hindwing red basal patch extending into the basal part of the cell, showing that this specimen belongs to *A. b. beata* f. *staudingeri* Michael. This male was captured at Atalaya, Ucayali, on October 1, 1996.

Figs 15 and 16 show the eighth male specimen in dorsal view with red coloring along the forewing costal veins (forewing length 36 mm). Many red scales are seen in disc 11. Red scales are also seen in discs 10 and 12 as well as in the cell. Fig. 24 shows the specimen in ventral view with hindwing red basal patch, showing that this specimen belongs to *A. b. beata* Staudinger. This male was captured at the Rio Coviriaqui, Satipo, on September 5, 1996.

### Comment

It is well known that *A. b. hewitsonius* Bates from Tefé, Brazil has a large yellow patch on the forewing dorsal surface. However, Peruvian *A. beata* butterflies have not been reported to have yellow or red coloring on the forewing dorsal surface. The authors have found these colorings in four of the five Peruvian variations except *A. b. beata* f. *pherenice* Fruhstorfer. Forewing costal yellow coloring is associated with *A. phalcidon fournierae* var. *viola* Fassl. The authors name these 8 butterflies with yellow or red coloring along forewing costal veins as *pseudoviola*.

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## 摘 要

ペルー産、前翅前縁に黄色または赤色紋を伴う 8 頭のベアータアグリアス (鱗翅目、タテハチョウ科) (井上武夫・新井久保)

黄色と赤色はベアータアグリアス裏面の基本色ではあるが、ペルー産の表面に現われることは稀であり、後翅前縁第 7 室に黄色斑をともなう *A. b. stuarti* var. *fulvescens* Rebillard が唯一記載されているにすぎない。著者らは 1984 年以来ペルー国内で 500 頭以上のベアータアグリアスを収集してきたが、雌 1 頭、雄 7 頭の前翅前縁に黄色または赤色紋を認めた。

写真 1, 2 は 1987 年 9 月 22 日にイキトスで採集された雌で、前翅前縁と第 12 翅脈との間の第 12 室、および第 11, 12 翅脈間の第 11 室に黄褐色紋が認められる。拡大写真では多数の黄褐色鱗粉が第 11, 12 室に認められ、中室にも広く散見される。また、第 10 翅脈上にも少数認められる。写真 17 はその裏面であり、後翅基部の黄褐色斑は大きく *A. b. stuarti* f. *micaela* (Biedermann) と同定できる。

写真 3, 4 は 1986 年 8 月 3 日にイキトスで採集された雄で、前翅前縁第 11 室に黄褐色紋が認められる。拡大写真では多数の黄褐色鱗粉が第 11 室に認められ、第 10, 12 室と中室、および第 10 翅脈上にも認められる。写真 18 はその裏面であり、後翅基部の黄褐色斑は大きく *A. b. stuarti* f. *micaela* と同定できる。

写真 5, 6 は 1987 年 1 月 31 日にイキトスで採集された雄で、前翅前縁基部に黄褐色紋が認められる。拡大写真では多数の黄褐色鱗粉が第 12 室基部に認められ、少数は第 11 室、および第 12 翅脈上にも認められる。写真 19 はその裏面であり、後翅基部の黄褐色斑は大きく *A. b. stuarti* f. *micaela* と同定できる。

写真 7, 8 は 1993 年 8 月にイキトスで採集された雄で、前翅前縁第 11, 12 翅脈が黄褐色になっている。拡大写真では多数の黄褐色鱗粉が第 11, 12 翅脈上に認められ、第 9, 10 翅脈上にも散見される。また、前縁と第 12 室基部にも多数認められる。写真 20 はその裏面であり、後翅基部の黄褐色斑は大きく *A. b. stuarti* f. *micaela* と同定できる。

写真 9, 10 は 1993 年 9 月にヤバリ河で採集された雄で、前翅前縁基部に黄褐色紋が認められる。拡大写真では多数の黄褐色鱗粉が第 11, 12 室基部、および第 11, 12 翅脈上に認められる。写真 21 はその裏面であり、後翅基部の黄褐色斑は大きく *A. b. stuarti* f. *micaela* と同定できる。

写真 11, 12 は 1991 年 11 月 13 日にペバスで採集された雄で、前翅前縁基部に赤色紋が認められる。拡大写真では多数の赤色鱗粉が前縁と第 12 翅脈上基部に認められ、少数は第 11, 12 室にも認められる。第 11, 12 室には青色鱗粉も認められる。写真 22 はその裏面であり、後翅基部の鮮紅色は大きく、中室内に退色した黒色斑を認め、*A. b. beatifica* var. *incarnata* Michael と同定できる。

写真 13, 14 は 1996 年 10 月 1 日にアタラヤで採集された雄で、前翅前縁第 11 室に赤色紋が認められる。拡大写真では多数の赤色鱗粉が第 11 室に認められ、第 10, 12 室と中室にも認められる。第 11 室基部には青色鱗粉が認められる。写真 23 はその裏面であり、後翅基部の赤色斑は中室基部まで広がっており *A. b. beata* f. *staudingeri* Michael と同定できる。

写真 15, 16 は 1996 年 9 月 5 日にサティポで採集された雄で、前翅前縁第 11 室に赤色紋が認められる。拡大写真では多数の赤色鱗粉が第 11 室に認められ、第 10, 12 室と中室にも認められる。第 11 室基部には青色鱗粉が認められる。写真 24 はその裏面であり、後翅基部の赤色斑は小さく *A. b. beata* Staudinger と同定できる。

以上、ペルー産ベアータの 5 変異体のうち *A. b. beata* f. *pherenice* Fruhstorfer を除く 4 変異体の前翅前縁に黄色または赤色紋を認めた。ブラジル産の *A. b. hewitsonius* Bates には前翅前縁に大きな黄色斑

が出現することは周知の事実であるが、ペルー産では知られていなかった。 *A. phalcidon fournerae* var. *viola* Fassl を連想して、著者らはこれら 8 頭を *pseudoviola* と呼んでいる。

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